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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/624,810

07/22/2003

Jack Dunnous

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EXAMINER

TUROCZY, DAVID P

ART UNIT

PAPER NUMBER

1762

MAIL DATE

DELIVERY MODE

06/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/624,810

Applicant(s)

DUNNOUS ET AL.

Examiner

David Turocy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 26-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment, filed 4/9/2007, have been fully considered and reviewed by the examiner. The examiner notes the amendment to claim 1. Claims 1-24, 26-35 are pending in the instant application. Claim 25 remains pending in the instant application.

Response to Arguments

2. Applicant's arguments filed 4/9/2007 have been fully considered but they are not persuasive.

The applicant has argued against the Bowe reference, stating that the reference fails to disclose forming an applied pattern in the wet concrete. However, the examiner notes that the admitted state of the art discloses applying a spray to wet concrete to form a pattern within the concrete. In particular Bowe discloses a known dispersion for coloring concrete comprises pigments, binders, water, and fillers and therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify ASA to use the pigment/binder mixture as suggested by Bowe to provide a desirable coloring of concrete with a reasonable expectation of success because ASA teaches of spraying liquid pigment into wet concrete and Bowe teaches spraying a pigment/binder mixture to form a film on wet concrete. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re*

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Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The examiner cites US Patent 6090329 by Dreschler et al. as evidence in support of the position, wherein the reference discloses coloring concrete to form color within the concrete, wherein such a spray includes acrylic or styrene polymers with pigments in concrete, similar to that as taught by Bowe.

All other applicants arguments with respect to the claims are deemed moot because they are directed to newly added claim limitations that were not present at the time of the rejection. Such claim limitations will be addressed in the art rejection below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, 7, 10, 11, 13, 14, 19, 23-24, and 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted state of the art, hereafter ASA in view of US Patent 6423382 by Bowe et al., hereafter Bowe and further in view of US Patent Publication 20030198122 by Johnson.

ASA discloses it was known in the art to produce multicolored concrete by discharging wet concrete mix from a vessel and spraying a first color dispersion onto the wet concrete discharging from the vessel to form a pattern of applied color and allowing the concrete to cure (Declaration filed 12/5/2005 paragraph 7). The spray inherently is under pressure and has a flow pattern. ASA discloses the first color dispersion comprises a pigment dispersed in water (Declaration filed 12/5/2005 paragraph 7).

ASA fails to disclose mixing a pigment water dispersion and a polymer binding agent to form a spray color dispersion. However, Bowe, teaching of a process for coloring uncured concrete, discloses a known dispersion for coloring concrete comprises pigments, binders, water, and fillers, such as (Column 1, lines 29-40). Bowe discloses providing 10% by weight pigment and 20-50% by weight polymer, each within the claimed range (Column 1, lines 35-45; Column 3, lines 48-60). Bowe discloses spraying the coating onto the wet concrete (Example IV). Bowe discloses using polymer binders such as acrylic polymers, water-soluble acrylic polymer, a water-

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soluble vinyl polymer, acrylic colloid polymer, styrene acrylic polymer, and mixtures thereof (Column 4, lines 15-55).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify ASA to use the pigment/binder mixture as suggested by Bowe to provide a desirable coloring of concrete with a reasonable expectation of success because ASA teaches of spraying liquid pigment onto wet concrete, Bowe teaches spraying a pigment/binder mixture to color wet concrete.

ASA in view of Bowe fails to explicitly teach binding the polymer-binding agent with the wet concrete to form an irreversible integral structure with the pigment and cement. However, the prior art and the present claims, reflected by claims 1, teach all the same process steps and utilize an uncured concrete with the same polymer binding agents and thus the results obtained by applicants process must necessarily be the same as those obtained by the prior art. Therefore by applying a pigment/polymer binding agent dispersion to wet concrete, it must necessarily result in the polymer binding agent reacting to the wet concrete. Either 1) the applicant and the prior art have different definitions for an spraying the dispersion on the wet concrete, or 2) the applicant is using other process steps or parameters that are not shown in the claims.

ASA in view of Bowe fails to explicitly disclose conveying the wet concrete mix to a hopper feeding concrete forming equipment. However, Johnson discloses conveying the wet concrete mix to a production machine, including a hopper, so to form to appropriate block structure out of the multicolored concrete (figures, 0037). Therefore it would have been obvious to one of ordinary skill in the art to have modified ASA in view

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of Bowe to have supplied the colored concrete to a production machine, including a hopper, with a reasonable expectation of successfully providing a colored concrete block. The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375.

ASA in view of Bowe and Johnson fails to explicitly teach a resultant polymer structure insoluble in water that remains part of the cured concrete. However, Bowe discloses utilizing concrete blocks including the polymer binder in areas subject to weather conditions, such as forming a smooth attractive film on the surface of concrete materials including roofing tiles (Column 5, lines 10-25). It is the examiners position that the multi-color concrete blocks as taught by ASA in view of Bowe inherently has a polymer structure insoluble in water to protect the color pattern within the concrete block from the probable weather conditions.

6. Claims 3-6, 15-18, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASA in view of Bowe and Johnson and further in view of US Patent 5993551 by Hahn, hereafter Hahn.

Claims 3, 4, 15, 16, and 35: ASA in view of Bowe teaches all the limitations of these claims as discussed in the 35 USC 103(a) rejection above. However, ASA in view of Bowe fails to teach using a plurality of nozzles to providing a first and second spray dispersion, wherein the first and second dispersion are different.

However, Hahn, teaching of a method of multi-color spraying concrete, discloses spraying concrete, on a conveyer, using a plurality of nozzle and using different colored spray dispersions to provide the appropriate color pattern (figures, Column 8, lines 11-44). While the examiner notes Hahn is spraying formed tiles, rather than the claimed wet concrete, Hahn shows a method of spraying multiple colors to form a multicolored substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify ASA in view of Bowe to use the plurality of nozzles to spray multiple color dispersions as suggested by Hahn to provide a desirable multicolored concrete with a reasonable expectation of success because Hahn discloses using multiple of nozzles to apply multiple spray dispersions is known in the art to provide the desired pattern and therefore would reasonably be expected to effectively provide a pattern in the colored concrete as taught by ASA.

7. Claims 5, 6, 17, and 18: ASA in view of Bowe teaches all the limitations of these claims as discussed in the 35 USC 103(a) rejection above. However, ASA in view of Bowe and Johnson fails to teach pulsed spraying.

However, Hahn, teaching of a method of multi-color spraying concrete, discloses forming the desired pattern on the substrate by cycling each spray nozzle on and off to determine the pattern (Column 7, lines 37-42). Hahn discloses varying the timing between the pulsing allows for a variety of patterns to be applied to the substrate (Column 7, lines 37-42). While the examiner notes Hahn is spraying formed tiles, rather

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then the claimed wet concrete, Hahn shows a method of spraying multiple colors to form a multicolored substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify ASA in view of Bowe to use the pulsed spray to spray multiple color dispersions as suggested by Hahn to provide a desirable multicolored pattern with a reasonable expectation of success because Hahn discloses using pulsing spray is known in the art to provide a variety of patterns on the substrate and therefore would reasonably be expected to effectively provide a variety pattern in the colored concrete as taught by ASA.

8. Claims 8-9 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASA in view of Bowe and Johnson and further in view of Kirk-Othmer.

ASA in view of Bowe teaches all the limitations of these claims as discussed in the 35 USC 103(a) rejection above. However, ASA in view of Bowe fails to teach of nozzles having a desired flow pattern selected from the group consisting of a solid cone, a hollow cone, and a flat spray, or spraying in the form of a stream.

However Kirk-Othmer, teaching of conventional spray systems, discloses that the spray pattern or shape is an important factor in selecting the right nozzle for certain processes (Page 687, full paragraph 4). Kirk-Othmer discloses that in most cases it is necessary to "fine-tune" the sprays through trial and error to achieve the goals of low cost and high performance (Page 687, full paragraph 4). Kirk-Othmer discloses known

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and conventional spray patterns utilized in various spray applications include a solid cone, a hollow cone, a flat spray, and a stream (Page 688, Table 2).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify ASA in view of Bowe to use any of the spray patterns, including a solid cone, a hollow cone, a flat spray, and a stream, suggested by Kirk-Othmer to provide a process with high performance and low cost because ASA in view of Bowe teaches spraying a pigment dispersion to color concrete and Kirk-Othmer teaches trial and error in selecting the specific nozzle pattern for the specific process to optimize the results of process performance and quality of the end product.

9. Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASA in view of Bowe and Johnson and further in view of US Patent 4578290 by Komon et al., hereafter Komon.

ASA in view of Bowe teaches all the limitations of these claims as discussed in the 35 USC 103(a) rejection above. However, ASA in view of Bowe fails to teach of adjusting the vertical distance between the substrate and the nozzle.

However, Komon, teaching of a method of spraying a substrate, discloses the distance between the is a known result effective variable, wherein the distance between the substrate and the nozzle determines the coating pattern (abstract).

Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the distance between the substrate and nozzle used in the process of ASA in view of Bowe, including varying the

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distance, through routine experimentation, to impart the wet concrete with the desired spray pattern.

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over ASA in view of Bowe and Johnson and further in view of US Patent Publication 2002/0013401 by Friel et al., hereafter Friel and US Patent Publication 2003/0232913 by Bakule, hereafter Bakule.

ASA in view of Bowe teaches all the limitations of these claims as discussed in the 35 USC 103(a) rejection above, including supplying a paint comprising a polymeric binder, however, the reference fails to disclose using a water-borne urethane polymeric binder.

However, Friel teaching of a paint for coating cement structures, such as roof tiles, discloses known and suitable polymer binders include among others, acrylic polymers, vinyl acetate, polyurethane and urethane (Paragraphs 0082 and 0118). Friel discloses preferably using water-borne latexes for the paints (0082). Also, Bakule, teaching of polymeric binders for concrete roof tiles, discloses waterborne urethane polymers, acrylic polymers, and methacrylic polymers (0027, 0028, 0074). Therefore Friel and Bakule disclose acrylic polymers and urethane are known equivalents for polymeric binders within a paint for concrete. Substitution of equivalents requires no express motivation. *In re Fount*, 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152, USPQ (CCPA 1967). Alternatively, Friel and Bakule discloses that water-borne urethane is a known and suitable polymeric binder for use within paints for concrete and

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the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v.*

Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). Therefore it would have been obvious to one of ordinary skill in the art to have selected the water-borne urethane polymeric binder with a reasonable expectation of success because Friel and Bakule both disclose water-borne urethanes are known and suitable for use within paints that are to be applied to concrete.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5047295 discloses applying polymer binder and pigment dispersion to the surface of the wet concrete using spraying (Column 1, Column 6, lines 27-37). JP 63243170 discloses paint compositions for wet concrete surfaces consisting of an resin.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David Turocy/
AU 1762


FRED J. PARKER
PRIMARY EXAMINER